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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/224,202	12/30/1998	LANCE R. CARLSON	3123-233-1	3994
7590	02/08/2006		EXAMINER	
DAVID M. SIGMOND MAXTOR CORPORATION 2452 Clover Basin Drive LONGMONT, CO 80503			SNIEZEK, ANDREW L	
			ART UNIT	PAPER NUMBER
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

**MAILED**

Application Number: 09/224,202  
Filing Date: December 30, 1998  
Appellant(s): CARLSON ET AL.

**FEB 08 2006**  
**Technology Center 2600**

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David M. Sigmond  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 11/28/05 appealing from the Office action mailed 11/17/05.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The following are the related appeals, interferences, and judicial proceedings known to the examiner, which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

A Decision on Appeal dated April 28, 2004 was issued for the present application.

A Decision on Appeal dated May 27, 2004 was issued for U.S. Application Serial No. 09/843,631 filed April 27, 2001 (now U.S. Patent 6,894,854), which is a divisional of the application.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

4,777,544	Brown et al.	10-1988
4,146,911	Gyi et al.	03-1979

### **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 87, 88, 93, 97, 98, 103, 110, 111, 120 and 121 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al. (4,777,544)

Re claim 87: Brown et al. teaches a disk drive comprising a disk (10, 12, 14) and a head (27) wherein as stated in column 7, lines 13-45 a track can contain interleaved wavelengths which are different from one another and a detection circuit (figure 6) which determines if a head is in an acceptable flying height (change in flying height) while the head is at a substantially constant flying height.

Re claim 93: It is noted that column 7, lines 13-45 indicate that **subsequently** a change in fly height can be made. This subsequent determination occurs at a non-predetermined flying height (zero clearance).

Re claim 88: Note wavelengths in column 7 are not stated as varying, therefor are deemed to be constant.

Re claim 97: The teaching of Brown et al. as discussed above is incorporated herein.

Additionally, "without moving the head to a substantially different flying height" is given the same meaning as "while the head is at a substantially constant flying height" as set forth in claim 87, and is therefor satisfied as already explained.

Re claims 98 and 103: These limitations are the same as those discussed with respect to claims 88 and 93 and therefor satisfied for similar reasons.

Re claims 110, 111, 120 and 121: Clearly the wavelengths are recorded along a given track, which inherently contains user fields and therefor would satisfy the language adjacent user fields as claimed.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 92, 102, 108, 109, 112, 115, 118, 119, 122, 125 and 126 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. in view of Gyi et al. The teaching of Brown et al. is discussed above and incorporated herein. Claims 92 and 102 further set forth that the signals are recorded in the servo field. Claims 112 and 122 seem to set forth similar limitations. Brown does not specify the exact location of the recorded signals. Gyi et al. teaches in a similar arrangement that two signals of different frequencies can be recorded in a servo area, spaced laterally across a track of a disk, to determine fly height. It would have been obvious to one of ordinary skill in the

art at the time of the invention to look to the teaching of Gyi et al. to determine the exact location of the signals along a disk, given that Brown et al. does not specify the exact location, since both are concerned with the determination of acceptable fly heights of a head. The limitations of claims 108 and 118, relationship between the signals, and claims 109, 119 directed to the data patterns with respect to a track centerline are taught by Gyi et al. (figure 3) and would have been obviously incorporated in the arrangement of Brown et al. to determine fly height. The limitations of claims 115, 125 and 126 are obviously satisfied by the operation of the arrangement of Brown et al. and Gyi et al. as applied.

#### **(10) Response to Argument**

Appellant states that in Brown et al. reference flying height values (such as zero clearance) are first determined and then used to calculate the unknown flying height and that claims 87 and 97 preclude this approach. Also appellant points to the Board of Patent Appeals and Interferences in the Decision on Appeal dated April 28, 2004 where the Board stated as follows

As argued by appellants, the determination of flying height in Brown requires that the drive be move to a different reference height such as zero clearance and that additional measurements be made at the zero clearance flying height.

Examiner does not agree with this argument presented by appellant.

Claim 87 sets forth "a detection circuit that determines whether the head is within an acceptable flying height range in response to the first and the second data patterns while the head is at a substantially constant flying height".

Claim 97 recites "a detection circuit that determines whether the head is within an acceptable flying height range in response to the first and second data patterns without moving the head to a substantially different flying height"

Column 7, lines 13-45 of Brown et al. indicates that at a second measured time (subsequent measured time) the readback signal amplitudes at the two wavelengths are determined. There is nothing in this passage that would suggest that this performed reading occurs at different fly heights, i.e. the first wavelength is read at a first fly height and the second wavelength is read at a second fly height. Lacking such a teaching, one would have to take the teaching as meaning that the readings of each wavelength occur when the head is at a substantially constant flying height.

Furthermore the text of the previous Board of Patent and Appeals, dated April 28, 2004, pointed out by appellant, was made in response to a different set of claimed limitations than is now present upon appeal. In the previous situation the claims specifically set forth that the determination was made "and independently of flying height data obtained from the disk drive at other than the substantially constant flying height", claim 87 or "and independently of flying height data obtained from the disk drive at a predetermined flying height", claim 97.

As stated previously by the Board of Patent Appeals and Interferences on page 6 of the Decision of 4/28/04 with respect to the applicants disclosed invention "The

specification does not disclose that these threshold values are obtained independently of flying height data obtained from the disk drive. There is every reason to believe that the threshold data stored in the RAM must come from previously determined measurements of the disk drive at various predetermined flying heights".

The "independent" limitation has been taken out from the present claims on appeal. Brown et al. satisfies the claims now present on appeal for the above reasons.

Concerning appellants arguments with respect to claims 87 and 97 "non-overlapping circumferential portions of the first track" are deemed satisfied by the interleaved patterns formed on a given track as taught by Brown et al., column 7, lines 18-21.

Appellant has not provided any arguments related to dependent claims 88, 92, 93, 98, 102, 103, 108-112, 115, 118-122, 125 and 126. These claims should therefore stand are fall with respective independent claims 87 and 97.

**(11) Related Proceeding(s) Appendix**

Copies of the court or Board decision(s) identified in the Related Appeals and Interferences section of this examiner's answer are provided herein.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,  
*Andrew L. Snizek*

Conferees:

*David Hudspeth*  
David Hudspeth

ANDREW L. SNIEZEK  
PRIMARY EXAMINER

Richemond Dorvil

*Richemond Dorvil*

**RELATED PROCEEDING(S) APPENDIX**

1. A Decision on Appeal dated April 28, 2004 was issued for the present application.
2. A Decision on Appeal dated May 27, 2004 was issued for U.S. Application Serial No. 09/843,631 filed April 27, 2001 (now U.S. Patent 6,894,854), which is a divisional of the application.

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

**RE-MAILED**

APR 28 2004

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Paper No. 34

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

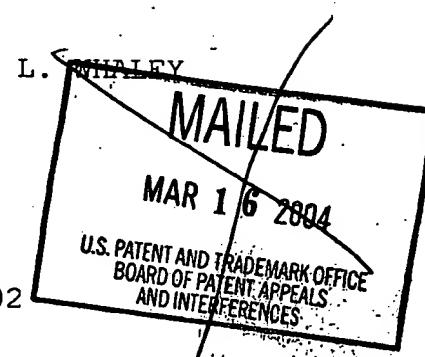
Ex parte LANCE R. CARLSON, JEFFREY L. WHALEY  
and ROBERT L. METZ

Appeal No. 2002-1306  
Application No. 09/224,202

ON BRIEF

Before HAIRSTON, JERRY SMITH, and DIXON, Administrative Patent Judges.

JERRY SMITH, Administrative Patent Judge.



Appeal No. 2002-1303  
Application No. 09/224, 202

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 47-50, 53-58, 61-66, 87, 88, 91-98, 101-106, 108-113, 115, 118-123, 125 and 126. Claims 1-46 had been cancelled. Claims 51, 52, 59, 60, 67-86, 89, 90, 99, 100, 107, 114, 116, 117 and 124 had been withdrawn from consideration by the examiner as the result of a restriction requirement. An amendment after final rejection was filed on May 2, 2001 and was entered by the examiner. This amendment cancelled the non-elected claims. Therefore, this appeal is directed to all the claims still pending in this application.

The disclosed invention pertains to a disk drive that includes a detection circuit that determines whether a head is within an acceptable flying height range over a disk in response to first and second data patterns stored on the disk.

Representative claim 87 is reproduced as follows:

87. A disk drive, comprising:

a disk having a plurality of concentric tracks for storing data, the tracks including a first track having a first data pattern with a first frequency and a second data pattern with a second frequency that is higher than the first frequency, wherein the first and second data patterns are located in separate non-overlapping circumferential portions of the first track;

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a head for reading data from and writing data to the disk; and

a detection circuit that determines whether the head is within an acceptable flying height range in response to the first and second data patterns while the head is at a substantially constant flying height and independently of flying height data obtained from the disk drive at other than the substantially constant flying height.

The examiner relies on the following references:

Gyi et al. (Gyi)	4,146,911	Mar. 27, 1979
Brown et al. (Brown)	4,777,544	Oct. 11, 1988

The following rejections are on appeal before us:

1. Claims 47-50, 53-58, 61-66, 87, 88, 91-98, 101-106, 108-113, 115, 118-123, 125 and 126 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

2. Claims 87, 88, 93, 97, 98, 103, 110, 111, 120 and 121 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Brown.

3. Claims 92, 102, 108, 109, 112, 115, 118, 119, 122, 125 and 126 stand rejected under 35 U.S.C. § 103(a) as being, unpatentable over the teachings of Brown in view of Gyi.

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Rather than repeat the arguments of appellants or the examiner, we make reference to the brief and the answer for the respective details thereof.

OPINION

We have carefully considered the subject matter on appeal, the rejections advanced by the examiner and the evidence of anticipation and obviousness relied upon by the examiner as support for the prior art rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the brief along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that the specification in this application does fail to comply with the written description requirement of 35 U.S.C. § 112. We are also of the view that the evidence relied upon does not support either of the examiner's rejections based on the prior art. Since the examiner's rejection under 35 U.S.C. § 112 applies to all pending claims, we affirm.

We consider first the examiner's rejection of all pending claims under the first paragraph of 35 U.S.C. § 112. The examiner's rejection is clearly directed to the written description requirement of 35 U.S.C. § 112. Specifically, the

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examiner objects to the recitation in independent claims 87 and 97 of a detection circuit that determines whether the head is within an acceptable flying height range independently of flying height data obtained from the disk drive at other than the substantially constant flying height [claim 87] or at a predetermined flying height [claim 97]. The examiner finds no support in the specification for the detection circuit making its determinations independently of flying height data obtained from the disk drive. The examiner asserts that the determinations of the detection circuit are dependent upon known threshold or calibration values which are obtained from at least a maximum flying height of the disk drive [final rejection, pages 2-3, incorporated into examiner's answer at page 3].

Appellants argue that the specification makes it clear that the flying height determination occurs while the head is at a substantially constant flying height by comparing a read signal resolution value, responsive to a ratio of read signals from the first and second data patterns, to a predetermined threshold resolution value stored in RAM. Appellants assert that the specification does not require that these predetermined threshold values be obtained from the disk drive. They note that these values could be calculated before the disk drive is manufactured and then stored in the RAM of the drive [brief, pages 6-9].

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The examiner responds that the cited portions of the specification do not support appellants' argument that the threshold values are determined during disk manufacture. The examiner repeats his finding that the threshold values of the claimed invention are not independently determined as claimed [answer, pages 4-5].

The purpose of the written description requirement is to ensure that the applicants convey with reasonable clarity to those skilled in the art that they were in possession of the invention as of the filing date of the application. For the purposes of the written description requirement, the invention is "whatever is now claimed." Vas-cath, Inc. v. Mahurkar, 935 F.2d 1555, 1564, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). The disclosed invention requires that the measured flying height be compared to predetermined threshold values which are known to represent good and/or bad flying height values. The specification does not disclose that these threshold values are obtained independently of flying height data obtained from the disk drive. There is every reason to believe that the threshold data stored in the RAM must come from previously determined measurements of the disk drive at various predetermined flying heights. We agree with the examiner that the portions of the specification identified by appellants fail to support appellants' argument regarding

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independent measurements. This independent feature of the claimed invention was added to distinguish over the applied prior art. We are not inclined to accept such a claim modification without clear support for such modification in the specification. We find no support in appellants' specification for the recitation of independence as recited in all of the claims on appeal. Therefore, we sustain the examiner's rejection of all the claims on appeal.

We now consider the examiner's rejection of claims 87, 88, 93, 97, 98, 103, 110, 111, 120 and 121 under 35 U.S.C. § 102(b) as being anticipated by the disclosure of Brown. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

The examiner has indicated how he finds the appealed claims to be anticipated by Brown [final rejection, page 4, incorporated into examiner's answer at page 3]. Appellants argue

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that Brown requires that the flying height be adjusted to a reference clearance, such as zero clearance which is different from the substantially constant flying height, in order to determine flying height of a disk drive [brief, pages 10-12]. The examiner responds that appellants' claimed invention also requires the use of other readings [answer, page 5].

We will not sustain the examiner's rejection of the claims under 35 U.S.C. § 102. Regardless of whether there is support in the specification for limitations recited in a claim, the examiner is required to consider all claim limitations when making a prior art rejection. Independent claims 87 and 97 clearly recite that the detection circuit determines whether the head is within an acceptable flying height range independently of flying height data obtained from the disk drive at other than the substantially constant flying height [claim 87] or independently of flying height data obtained from the disk drive at a predetermined flying height [claim 97]. As argued by appellants, the determination of flying height in Brown requires that the drive be moved to a different reference flying height such as zero clearance and that additional measurements be made at the zero clearance flying height. Because Brown must additionally use these reference flying heights, the determinations in Brown

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are not made independently of other flying height data as required by the claims on appeal.

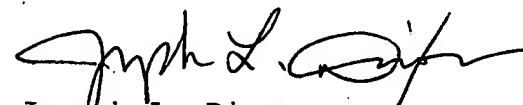
With respect to the claims rejected under 35 U.S.C. § 103 based on the teachings of Brown and Gyi, we will not sustain this rejection. The examiner's findings with respect to Brown are erroneous for reasons discussed above. Since Gyi does not overcome the deficiencies of Brown, the collective teachings of Brown and Gyi fail to establish a prima facie case of obviousness of the claims on appeal.

In summary, we have sustained the examiner's rejection of all claims on appeal under 35 U.S.C. § 112, but we have not sustained either of the examiner's prior art rejections. Therefore, the decision of the examiner rejecting 47-50, 53-58, 61-66, 87, 88, 91-98, 101-106, 108-113, 115, 118-123, 125 and 126 is affirmed.

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Application No. 09/224,202

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

  
Kenneth W. Hairston )  
Administrative Patent Judge )  
)  
  
Jerry Smith )  
JERRY SMITH )  
Administrative Patent Judge )  
)  
  
Joseph L. Dixon )  
Administrative Patent Judge )  
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Appeal No. 2002-1303  
Application No. 09/224,202

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